

ABSTRACT

It is desirable to provide a bitstream format for compressed data that would allow multiple processors to access and decompress different parts of the data in parallel. Compressed images are usually defined in terms of macroblocks that have a width less than the image width and a height less than the image height. Thus, an image is divided several bands of multiple lines, and each band of multiple lines is divided into a macroblock. The set of macroblocks that define a band is called herein a macroblock rasterscan. The bit stream format includes, for each image, a picture header followed by image scan data. The image scan data includes data corresponding to a plurality of macroblock rasterscans. The data for each macroblock rasterscan includes data for a plurality of macroblocks for a band of lines in the image followed by padding. The padding ensures that data for each macroblock rasterscan terminates on a data boundary. The picture header references an image scan index that indicates a number of macroblock rasterscans in the image scan data and a number of lines per macroblock rasterscan, followed by entries of the index. Each entry in the index includes an offset of the macroblock rasterscan in image scan. The picture header may contain a reference to a picture header type, that references an `I_frame_image_descriptor`, which references the image scan index.